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ABSTRACT

This study examined the long-term effect of retention/promotion decisions on the academic achievement of primary grade students. First, second, and third grade retainees were matched on several variables with same-age students who were not retained. Results indicated that retained students significantly improve their relative class standing by the end of the retained year, and in some cases they maintain this advantage over a two-year period; however, after three years there are no differences between retained and promoted students. Comparison of same grade level performance indicated that second and third grade retainees acquire more information, as measured by standardized tests, than their promoted counterparts, although this acquisition is delayed one year. Tables and charts are included. (Author/TE)

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A Longitudinal Study of the Effects of Retention/Promotion on Academic Achievement

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Paper presented at the annual meeting of the
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Chicago, 1985

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Abstract

This study examined the long-term impact of retention/promotion decisions on the academic achievement of primary grade students. First, second, and third grade retainees were matched on several variables with same-age students who were not retained. Results indicated that retained students significantly improve their relative class standing by the end of the retained year, and in some cases they maintain this advantage over a two-year period; however, after three years there are no differences between retained and promoted students. Comparisons of same grade level performance indicated that second and third grade retainees acquire more information, as measured by standardized tests, than their promoted counterparts, although this acquisition is delayed one year.

A LONGITUDINAL STUDY OF THE EFFECTS OF RETENTION/PROMOTION ON ACADEMIC ACHIEVEMENT

With the increasing emphasis on competency-based education, the question of whether to retain low-achieving students has once again come to the forefront of educational policy issues. After a decrease in retention rates, they are on the rise again, in spite of research which indicates that retention is not effective in improving academic achievement.

In the first major review of research on retention, Jackson (1975) examined a large number of studies and concluded that the existing evidence was inconclusive concerning the relative benefits of retention or promotion for students with academic difficulties. Using meta-analysis to obtain more precise results in integrating research studies, Holmes and Matthews (1984) found that retained students performed 0.44 standard deviations below promoted counterparts on various measures of academic achievement. This finding led them to a definitive conclusion: not only does the accumulated research fail to provide evidence that retention can be beneficial, but it suggests that retention can be harmful. Based on their results, Holmes and Matthews issued a challenge to those who would advocate retention as a policy for low achievers: "Because this cumulative research evidence consistently points to negative effects of nonpromotion, the burden of proof legitimately falls on proponents of retention plans to show there is compelling logic indicating success of their plans when so many other plans have failed." (p. 232)

One of the reasons typically offered as an explanation for the failure of retention to improve academic achievement is that students are often retained in programs which were not beneficial to them in the first year. Accordingly, retention may be more beneficial if specific plans are developed to overcome difficulties encountered in the previous year. In the Mesa Public Schools, the promotion/retention policy specifically states that any student being considered for retention must be identified by the end of the first semester. Staffings are then held to develop a profile of the student's academic achievement and formulate goals for the remainder of the year. If, at the end of the year, progress is not considered adequate and a decision is made to retain the student, a specific educational plan is developed for the next year.

Preliminary data on kindergarten retainees in the Mesa Public Schools indicated that retention was effective over a period of one year (Troidl, 1984). Therefore, we had reason to believe that the stringent requirements for developing educational goals would lead to short-term educational benefits for those students retained in the primary grades. What we did not know was whether these positive effects would continue past the year immediately following retention. In fact, few studies have provided longitudinal data for addressing the question of long-term impact of retention.

Therefore, the primary objective of this study was to examine the long-term impact of retention/promotion decisions on the academic achievement of elementary students in the Mesa Public Schools. Four years of test scores from the California Achievement Test were used to compare the academic progress of students retained in the primary

years with a matched group of students who had been promoted. The test data were used to answer two general questions: 1) How does the relative class standing of retainees compare to the relative class standing of non-retainees in the same year (e.g., second grade students who were retained in first grade versus third grade students who were not retained but who had similar first grade achievement scores to the retainees)?, and 2) How does performance of retainees on a given grade level test compare with the performance of non-retainees on the same grade level test from the previous year (e.g., second grade retainees' scores from 1982 versus matched non-retainees' second grade scores from 1981)?

The first of these questions was designed to assess whether retaining students is beneficial in terms of improving their relative position academically in the classroom. In other words, we were interested in determining if a below average student could become an average (or better) student by being retained in grade. The second question was designed to assess whether retention leads to greater acquisition of information, as measured by standardized achievement tests. That is, we were interested in determining if students who are retained will master more information at a given grade level, even though they reach that grade level one year later than normal.

Method

Sample

First, second, and third grade students who were retained at the end of the 1980-81 school year were identified and a matched comparison group of non-retainees was selected. Students were

individually matched on the following variables: sex, ethnicity, chronological age, and Total Reading, Total Grammar, and Total Math scores from the spring, 1981, California Achievement Test. Two-way analyses of variance by grade level (when originally retained or promoted) and retained versus promoted indicated that the retained and promoted groups did not differ significantly on test scores. They did, however, differ significantly on test scores across grade levels, so subsequent analyses were performed separately for each grade level. One-way analyses of variance at each grade level confirmed that the retained and promoted groups did not differ significantly on age or test scores.

Table 1 provides data on characteristics of students who were originally included in the matched sample. The final set of analyses included only those students who had test scores in at least one area for all four years. Fortunately, students who left the school district were nearly equally distributed between the retained and promoted groups. Again, one-way analyses of variance confirmed that the final sample of retained and promoted students did not differ significantly on age or test scores.

Insert Table 1 about here

Analyses

Retained versus promoted students were compared in two different ways. First, the relative standing of retainees was compared with their matched counterparts for the same year (e.g., first grade retainees and their matched second grade non-retainees), using NCE

scores. Second, performance of retainees was compared with that of their matched counterparts on the same grade level test from the previous year (e.g. first grade retainees' scores from 1982 and matched non-retainees' first grade scores from 1981). NCE scores were also used for these comparisons.

Test scores were analyzed using multivariate analyses of variance with group (retained vs. promoted) as a between-subjects variable and year of test (1982, 1983, and 1984) or grade at time of test as a within-subjects variable. Three analyses were performed for each grade level (first, second, and third), with Reading, Grammar, and Math scores as the dependent variables. When significant multivariate interactions were obtained between group and year of test or grade at time of test, univariate contrasts were performed between pairs of years (1982 vs. 1983 and 1983 vs. 1984) or grade levels (first vs. second, etc.) to determine where significant differences occurred. When contrasts were significant, subsequent one-way analyses of variance were performed comparing retained vs. promoted students in each year or each grade.

Results

Comparisons of Relative Class Standing

Tables 2 through 4 provide the means and standard deviations of achievement test scores for students retained in first, second, and third grade, respectively, and their matched counterparts. It should be pointed out that test scores from 1981 were not included in the multivariate analyses since students were matched on these scores; they are included in the tables and subsequent figures only as a reference point for examining trends across time.

Insert Tables 2 through 4 about here

Results of the multivariate analyses for students retained in first grade and their matched counterparts are presently graphically in Figures 1 through 3 for Reading, Language, and Math, respectively. The analysis for Reading indicated a significant main effect for group (retained vs. promoted students), F (1,124) = 10.31, $p < .002$, such that retained students performed higher than promoted students. The analysis also yielded a significant multivariate effect for time of test, F (2,123) = 24.33, $p < .001$, such that performance declined over time. These results must be interpreted within the context of a significant interaction between group and time of test, F (2,123) = 24.33, $p < .001$. Follow-up univariate contrasts indicated a significant interaction between 1982 and 1983, F (1,124) = 33.07, $p < .001$, and between 1983 and 1984, F (1,124) = 11.04, $p < .001$. Subsequent one-way analyses of variance between groups indicated that retained students performed significantly higher than promoted students in 1982, F (1,124) = 39.337, $p < .001$, but the two groups did not differ significantly in 1983 or 1984.

Insert Figures 1 through 3 about here

Results of the analyses on Language scores yielded no significant effects, although the main effect for group nearly approached significance, F (1,125) = 3.73, $p < .06$, such that retained students outperformed their promoted counterparts.

Analyses on Math scores indicated a significant main effect for group, F (1,124) = 8.05, $p < .005$, with retained students again outperforming promoted students. A significant multivariate effect was also found for time of test, F (2,123) = 15.05, $p < .001$. Again, these results should be interpreted in light of a significant group by time of test interaction, F (2,123) = 10.32, $p < .001$, with a significant interaction between 1982 and 1983, F (1,124) = 20.67, $p < .001$, but not between 1983 and 1984. One-way analyses of variance between groups indicated that retained students significantly outperformed promoted students in 1982, F (1,124) = 22.898, $p < .001$, and also in 1983, F (1,124) = 4.415, $p < .04$.

Results for second grade retainees and their matched counterparts are presented graphically in Figures 4 through 6 for Reading, Language, and Math, respectively. In Reading, a significant main effect was found for group, F (1,50) = 7.59, $p < .01$, with retained students performing higher than promoted students. Results for time of test and the interaction between group and time of test were not significant.

Insert Figures 4 through 6 about here

For Language scores the main effect for group approached significance, F (1,48) = 3.75, $p < .06$, with retained students outperforming promoted students. A significant multivariate effect was also found for time of test, F (2,47) = 6.9, $p < .003$, such that Language scores improved over time. Follow-up contrasts indicated a significant difference between 1982 and 1983, F (1,48) = 13.8, $p < .001$, but not between 1983 and 1984. No significant interaction was found.

In Math, second grade retainees performed significantly higher than promoted students, F (1,48) = 5.6, $p < .03$. Again, this result must be interpreted in light of a significant interaction between group and time of test, F (2,47) = 5.32, $p < .01$. Follow-up univariate contrasts indicated that the interaction was significant between 1982 and 1983, F (1,48) = 8.05, $p < .01$, and the interaction between 1983 and 1984 approached significance, F (1,48) = 3.91, $p < .06$. Subsequent one-way analyses of variance indicated that retained students significantly outperformed promoted students in 1982, F (1,48) = 12.29, $p < .001$, but the two groups did not differ significantly in 1983 or 1984.

Results for third grade retainees and their matched counterparts are presented graphically in Figures 7 through 9 for Reading, Lanugage, and Math, respectively. The analysis for reading indicated a significant effect only for time of test, F (2,27) = 4.15, $p < .03$. Follow-up univariate contrasts indicated a significant difference between 1982 and 1983, F (1,28) = 7.76, $p < .01$, with scores increasing between 1982 and 1983.

Insert Figures 7 through 9 about here

Analyses on Language scores yielded no significant effects. However, the main effect for group approached significance, F (1,27) = 2.96, $p < .1$, such that retained students outperformed promoted students.

In Math, a significant interaction was obtained between group and time of test, F (2,25) = 5.08, $P < .02$. Follow-up univariate contrasts indicated a significant interaction between 1982 and 1983, F

(1,26) = 10.36, $p < .003$, but the interaction between 1983 and 1984 was not significant. Subsequent one-way analyses of variance between retained and promoted students indicated no significant differences between the groups in any of the three years. However, the analysis for 1982 approached significance, F (1,26) = 4.16, $p < .06$, such that retained students outperformed promoted students.

To summarize the results of this set of analyses comparing relative class standing, students retained in first grade significantly outperformed their promoted counterparts in Reading in the first year after retention, but lost their advantage the following year and this relationship remained for the third year. In Language, first grade retainees outperformed their promoted counterparts in the three years following retention. However, these results only approached conventional levels of significance. In Math, retained students outperformed their promoted counterparts in the first two years following retention, but lost their advantage by the third year.

Second grade retainees were superior to their promoted counterparts on Reading achievement scores for three years following retention. The same result was also found for Language. However, these results only approached conventional levels of significance. In Math, second grade retainees outperformed their counterparts in the first year following retention, and then lost their advantage for the subsequent two years.

Third grade retainees did not show superiority over their matched counterparts in Reading. In Language, retained students were superior to their matched counterparts, although these results only approached

conventional levels of significance. In Math, third grade retainees outperformed their counterparts in the first year following retention, and then subsequently lost this advantage.

Comparisons of Performance on Same Grade Level Tests

Tables 5 through 7 present the means and standard deviations of achievement test scores for students retained in first, second, and third grade respectively. Scores from 1982, 1983, and 1984 for retained students are compared to those of their matched counterparts on the same grade level tests from 1981, 1982, and 1983.

Insert Tables 5 through 7 about here

Results of the multivariate analyses for students retained in first grade and their matched counterparts are presented graphically in Figures 10 through 12 for Reading, Language, and Math, respectively. In Reading, a significant main effect was found for group, F (1,124) = 13.68, $p < .001$, such that retained students outperformed promoted students, and also for grade at time of test, F (2,123) = 6.77, $p < .002$. Again, these results must be interpreted within the context of a significant group by grade at time of test interaction, F (1,123) = 31.34, $p < .0001$. Follow-up univariate contrasts indicated a significant interaction between first and second grade, F (1,124) = 56.95, $p < .001$, and also between second and third grade, F (1,124) = 5.40, $p < .03$. Subsequent one-way analyses of variance between retained and promoted students indicated a significant difference on first grade tests, F (1,124) = 66.43,

$p < .001$, and also on second grade tests, F (1,124) = 4.32, $p < .04$. The two groups did not differ significantly on the third grade test.

Insert Figures 10 through 12 about here

In Language, a main effect was found for group, F (1,125) = 16.41, $p < .001$, such that retained students performed significantly better than promoted students. A significant multivariate effect was also found for grade at time of test, F (2,124) = 17.93, $p < .001$. Again, these results should be interpreted in light of a significant two-way interaction, F (2,124) = 11.95, $p < .001$. Follow-up univariate contrasts indicated a significant interaction between first grade and second grade scores, F (1,125) = 22.76, $p < .001$, but no significant interaction between second and third grade scores. Follow-up one-way analyses of variance indicated a significant difference between groups on the first grade test, F (1,125) = 37.34, $p < .001$, and also on the second grade test, F (1,125) = 7.81, $p < .006$, such that retained students performed better than promoted students. The two groups did not differ significantly on the third grade test.

The analysis for Math yielded a significant main effect for group, F (1,124) = 18.25, $p < .001$, such that retained students performed significantly better than promoted students. This result must be interpreted in light of a significant group by grade at time of test interaction, F (2,123) = 40.76, $p < .001$. Follow-up univariate contrasts indicated a significant interaction between first and second grade scores, F (1,124) = 64.59, $p < .001$, as well as a significant interaction between second and third grade scores,

F (1,124) = 10.03, $p < .002$. Subsequent one-way analyses of variance indicated a significant difference between the two groups on the first grade test, F (1,124) = 94.33, $p < .001$. Differences between the two groups approached significance on the second grade test, F (1,124) = 3.66, $p < .06$; the two groups did not differ significantly on the third grade test.

Results of the multivariate analyses for students retained in second grade and their matched counterparts are presented graphically in Figures 13 through 15. In Reading, a main effect was found for group, F (1,50) = 12.54, $p < .001$, such that retained students significantly outperformed promoted students. The multivariate effect for grade at time of test and the two-way interaction were not significant.

Insert Figures 13 through 15 about here

In Language, a significant main effect was found for group, F (1,48) = 9.08, $p < .004$, such that retained students outperformed promoted students. A significant effect was also found for grade at time of test, F (2,47) = 13.15, $p < .001$. Follow-up contrasts indicated a significant difference between second and third grade scores, F (1,48) = 20.45, $p < .001$, but the difference was not significant between third and fourth grade scores.

Results of the analysis for Math scores indicated a significant main effect for group, F (1,48) = 9.93, $p < .003$, such that retained students significantly outperformed promoted students. A significant effect for grade at time of test was also found, F (2,47) = 4.57, $p < .02$. Follow-up univariate contrasts indicated a significant

difference between third and fourth grade scores, F (1,48) = 9.11, p < .004, such that performance significantly improved from third to fourth grade.

Results of the analyses for students retained in third grade and their matched counterparts are presented graphically in Figures 16 through 18 for Reading, Language, and Math, respectively. In Reading, significant effects were found for group, F (1,28) = 5.22, p < .03, such that retained students outperformed promoted students, and for grade at time of test, F (2,27) = 5.10, p < .02, such that performance improved over time. Follow-up univariate contrasts indicated a significant difference between third and fourth grade scores, F (1,28) = 10.07, p < .004, but not between fourth and fifth grade scores.

Insert Figures 16 through 18 about here

Results of the analyses for Language scores revealed a main effect for group, F (1,27) = 8.80, p < .006, such that retained students outperformed promoted students. No other significant effects were found.

In Math, a significant main effect was found for group, F (1,26) = 7.07, p < .02, such that retained students outperformed promoted students. Again, no other significant effects were found.

To summarize results of the comparisons of achievement test scores on same grade level tests, first grade retainees outperformed their matched promoted counterparts on the same grade level test in first and second grades, but not in third grade, in Reading, Math, and Language. Second and third grade retainees significantly outperformed

their promoted counterparts on all comparisons between Reading, Math, and Language scores at all three grade levels, second, third, and fourth grades or third, fourth and fifth grades, respectively.

Discussion

This study was designed to answer two questions concerning retention: (1) How does the relative class standing of retainees compare to the relative class standing of nonretainees in the same year and, (2) How does performance of retainees on a given grade level test compare with performance of nonretainees on the same grade level test from the previous year? Results pertaining to the two questions will be discussed separately.

Comparisons of Relative Class Standing

Results of the analyses confirmed our expectations that students in the Mesa Public Schools who were retained would outperform their promoted counterparts on achievement tests in the first year following retention. In nearly all cases, retained students significantly outperformed their promoted counterparts, or the differences at least approached significance. In only one case, that of third grade retainees in Reading, did the groups not differ significantly or nearly significantly in the first year following retention. These results are contrary to what has typically been found in the research literature. Previous research has indicated that promoted students generally perform better than retained students at the end of one year following retention.

A different picture emerges when considering the impact of retention beyond the first year. In most cases, retained students lost their superiority by the second year and in all cases they had

lost their superiority by the third year. The only exception to this was in Language for second and third grade retainees, where the differences between retained and promoted students in 1984 approached significance with retained students performing better than promoted students.

Overall, then, our results seem to indicate that retention does not have a favorable long-term impact on academic achievement of primary students as measured by relative class standing. This is especially true considering that promoted students show nearly the same relative class standing as retained students by the third year after retention, but they are taking a test that is one grade level higher than the retained students and thus are answering questions concerning more advanced material.

Comparisons of Performance on Same Grade Level Tests

These comparisons were made to determine if retained students master information at a higher level, albeit delayed one year, than promoted students. Our results indicate that retained students definitely master information in the repeated year at a higher level than their matched counterparts who have not repeated the year. Considering the years beyond retention, our results indicated that first grade retainees again lost their advantage over promoted students by the second grade in Reading and by third grade in Language and Math. However, a different pattern of results emerged for second and third grade retainees. In all three subtest areas, second and third grade retainees mastered information at a higher level for three years than did their promoted counterparts on the same grade level test from the previous year. Thus, there is some evidence that

retention leads to a higher mastery of content even though that mastery occurs one year later.

General Discussion

Several points should be made regarding the results of this study. First, Jackson (1975) in his review of research on retention criticized the use of a matched sample in examining retention versus promotion, claiming this type of design is biased toward promoted students, because it compares retained students having difficulties with promoted students who were probably not having as severe difficulties since they have not been retained in grade. While this bias may have been present in our study we believe that retention rates among schools in the district vary widely enough that a student with problems in one school might be retained while that same student, if attending another school, would not be retained. Furthermore, our students were matched not on one test score but on a pattern of test scores in Reading, Language, and Math simultaneously. Also our results at the end of the retained year strongly favored retention; therefore, if our design were not biased for promotion, our differences at the end of the first year would have been even greater than already found.

Another point that should be considered is that although we failed to find convincing evidence that retention is beneficial, in terms of relative class standing, to students having academic difficulties, our results do not seem to indicate that retention is harmful academically as other studies have found. Of course, there may be other factors to consider other than academic achievement, such as personal adjustment, self-concept, attitudes toward school, etc. which were not measured in this study.

In terms of acquisition of knowledge, we did find evidence that second and third grade retainees gain more than nonretainees, even though they are delayed a year in doing so. The fact that this effect was found for second and third grade retainees, but not for first grade retainees is somewhat surprising. Past research has generally shown that it is best to retain a student as early as possible, if retention is to occur.

Finally, all of our data, whether differences between the groups existed or not, showed that both groups of students generally performed below the district average, indicating that we need to take a closer look at options for improving the achievement of these students.

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Table 1
Characteristics of Matched Sample (Number of Students)

Group	Mean Age in Years	Sex		Ethnicity				
		Male	Female	White	Black	Hispanic	Indian	Oriental
First Grade								
Retained	7.7	52	32	65	1	15	2	1
Promoted	7.8	52	32	65	1	15	2	1
Second Grade								
Retained	8.7	23	8	19	0	10	2	0
Promoted	8.7	23	8	19	0	10	2	0
Third Grade								
Retained	9.9	7	10	12	1	4	0	0
Promoted	9.9	7	10	12	1	4	0	0

Table 2
Means and Standard Deviations for First Grade Retainees and Their Matched Counterparts in Comparisons of Relative Class Standing

Test	Year of Test	Group					
		Retained			Promoted		
		N	M	SD	N	M	SD
Reading	1981	64	41.9	13.5	62	43.1	11.8
	1982	64	61.4	13.3	62	46.0	14.4
	1983	64	51.6	16.2	62	48.0	14.8
	1984	64	49.8	17.7	62	45.7	13.4
Language	1981	64	34.0	16.0	63	37.1	15.4
	1982	64	55.4	18.1	63	49.2	15.2
	1983	64	57.2	17.3	63	51.7	18.9
	1984	64	56.5	16.6	63	53.0	18.1
Math	1981	65	40.3	11.8	61	41.1	11.0
	1982	65	64.4	15.4	61	50.9	16.2
	1983	65	56.3	15.2	61	50.1	17.8
	1984	65	51.4	17.2	61	49.7	16.5

Table 3
Means and Standard Deviations for Second Grade Retainees and Their Matched Counterparts in Comparisons of Relative Class Standing

Test	Year of Test	Group					
		Retained			Promoted		
		N	M	SD	N	M	SD
Reading	1981	26	34.5	12.3	26	33.9	12.3
	1982	26	48.6	13.9	26	37.2	10.4
	1983	26	47.7	13.5	26	39.8	13.0
	1984	26	47.4	10.4	26	39.7	16.1
Language	1981	25	33.8	16.5	25	32.3	17.1
	1982	25	48.8	18.0	25	37.3	14.5
	1983	25	48.4	17.1	25	44.1	16.6
	1984	25	55.0	18.2	25	46.6	15.7
Math	1981	26	35.9	13.2	24	37.0	12.4
	1982	26	54.1	19.3	24	36.8	15.3
	1983	26	47.3	13.8	24	42.6	15.5
	1984	26	51.0	16.7	24	46.0	13.3

Table 4
Means and Standard Deviations for Third Grade Retainees and Their Matched Counterparts in Comparisons of Relative Class Standing

Test	Year of Test	Group					
		Retained			Promoted		
		N	M	SD	N	M	SD
Reading	1981	15	31.0	10.5	15	28.3	6.2
	1982	15	44.2	15.0	15	35.5	15.3
	1983	15	43.9	17.1	15	37.1	14.4
	1984	15	48.1	21.3	15	41.7	11.9
Language	1981	14	33.4	18.6	15	30.3	8.1
	1982	14	53.2	24.4	15	39.1	15.3
	1983	14	53.8	17.1	15	40.8	12.6
	1984	14	51.9	21.5	15	48.2	19.4
Math	1981	14	33.6	19.4	14	30.9	10.3
	1982	14	49.3	18.3	14	36.4	14.9
	1983	14	50.4	18.0	14	42.5	11.2
	1984	14	50.6	18.6	14	52.4	11.5

Table 5
Means and Standard Deviations for
First Grade Retainees and Their Matched Counterparts
on Comparisons of Same Grade Level Tests

Test	Grade at Time of Test	Group					
		Retained			Promoted		
		N	M	SD	N	M	SD
Reading	1	64	61.4	13.3	62	43.1	11.8
	2	64	51.6	16.2	62	46.0	14.4
	3	64	49.8	17.7	62	48.0	14.8
Language	1	64	55.4	18.1	63	37.1	15.4
	2	64	57.2	17.3	63	49.2	15.2
	3	64	56.5	16.6	63	51.7	18.9
Math	1	65	64.4	15.4	61	41.1	11.0
	2	65	56.3	15.2	61	50.9	16.2
	3	65	51.4	17.2	61	50.1	17.8

Table 6
Means and Standard Deviations for
Second Grade Retainees and Their Matched Counterparts
on Comparisons of Same Grade Level Tests

Test	Grade at Time of Test	Group					
		Retained			Promoted		
		N	M	SD	N	M	SD
Reading	2	26	48.6	13.9	26	33.9	12.3
	3	26	47.7	13.5	26	37.2	10.4
	4	26	47.4	10.4	26	39.8	13.0
Language	2	25	48.8	18.0	25	32.3	17.1
	3	25	48.4	17.1	25	37.3	14.5
	4	25	55.0	18.2	25	44.1	16.6
Math	2	26	54.1	19.3	24	37.0	12.4
	3	26	47.3	13.8	24	36.8	15.3
	4	26	51.0	16.7	24	42.6	15.5

Table 7
Means and Standard Deviations for
Third Grade Retainees and Their Matched Counterparts
on Comparisons of Same Grade Level Tests

Test	Grade at Time of Test	Group					
		Retained			Promoted		
		N	M	SD	N	M	SD
Reading	3	15	44.2	15.0	15	28.3	6.2
	4	15	43.9	17.1	15	35.5	15.3
	5	15	48.1	21.3	15	37.1	14.4
Language	3	14	53.2	24.4	15	30.3	8.1
	4	14	53.8	17.1	15	39.1	15.3
	5	14	51.9	21.5	15	40.8	12.6
Math	3	14	49.3	18.3	14	30.9	10.3
	4	14	50.4	18.0	14	36.4	14.9
	5	14	50.6	18.6	14	42.5	11.2

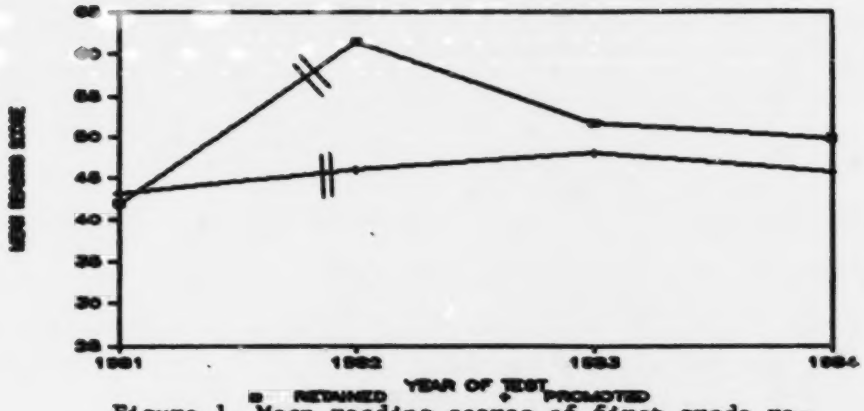

Figure 1. Mean reading scores of first grade retainees and their matched counterparts on comparisons of relative class standing.

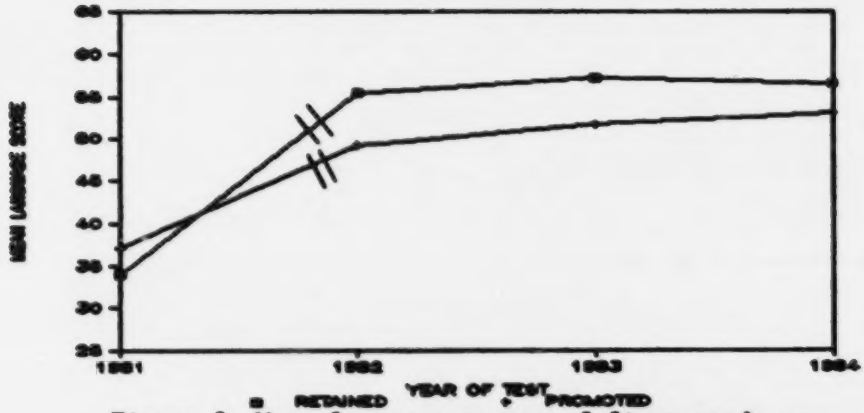

Figure 2. Mean language scores of first grade retainees and their matched counterparts on comparisons of relative class standing.

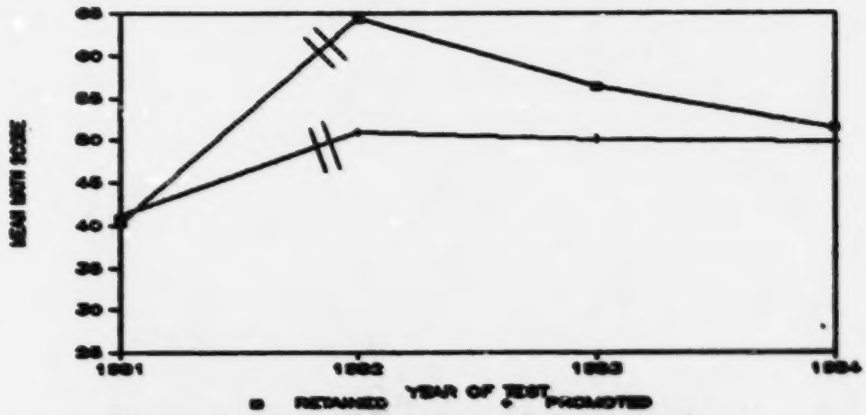

Figure 3. Mean math scores of first grade retainees and their matched counterparts on comparisons of relative class standing.

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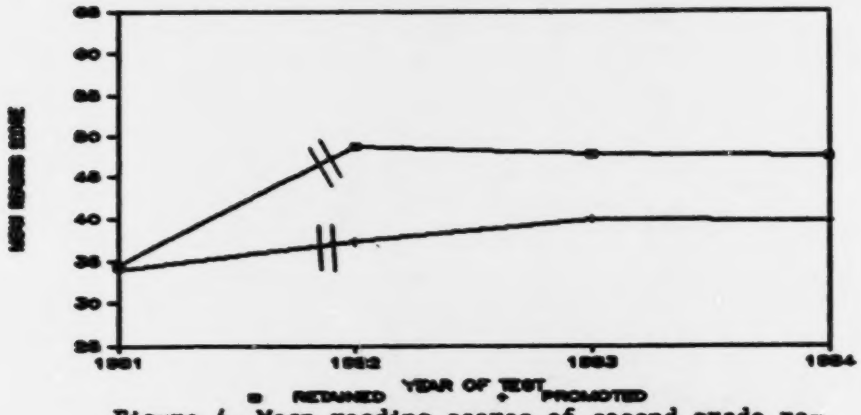

Figure 4. Mean reading scores of second grade retainees and their matched counterparts on comparisons of relative class standing.

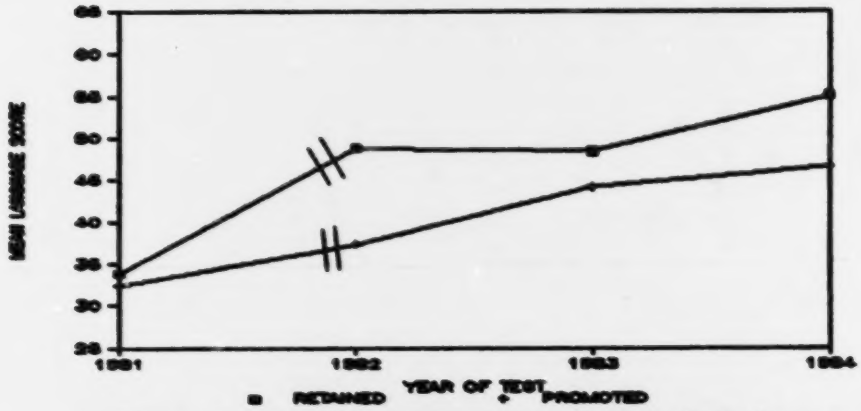

Figure 5. Mean language scores of second grade retainees and their matched counterparts on comparisons of relative class standing.

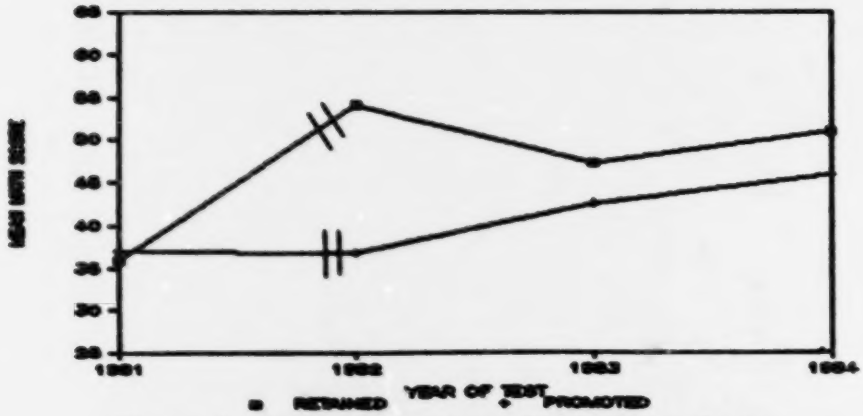

Figure 6. Mean math scores of second grade retainees and their matched counterparts on comparisons of relative class standing.

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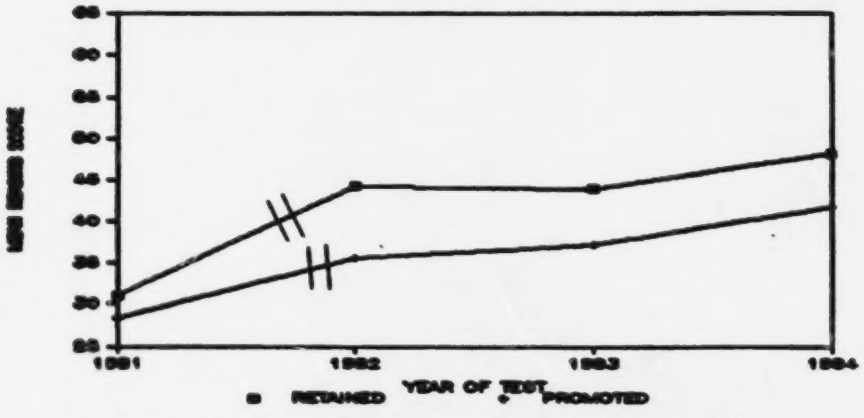

Figure 7. Mean reading scores of third grade retainees and their matched counterparts on comparisons of relative class standing.

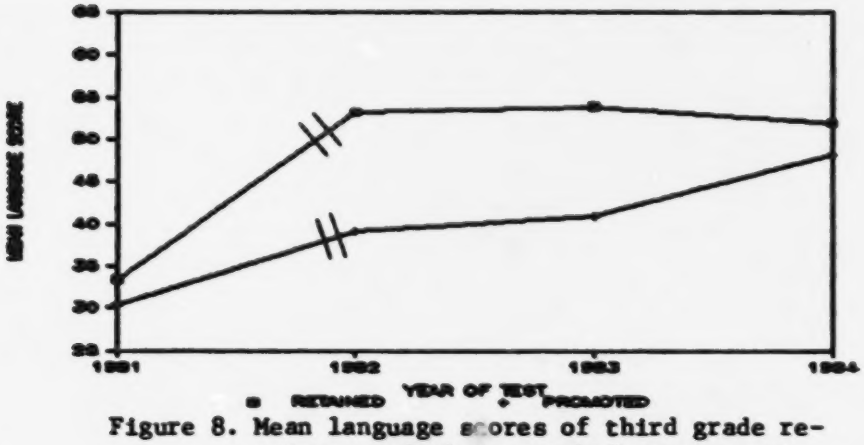

Figure 8. Mean language scores of third grade retainees and their matched counterparts on comparisons of relative class standing.

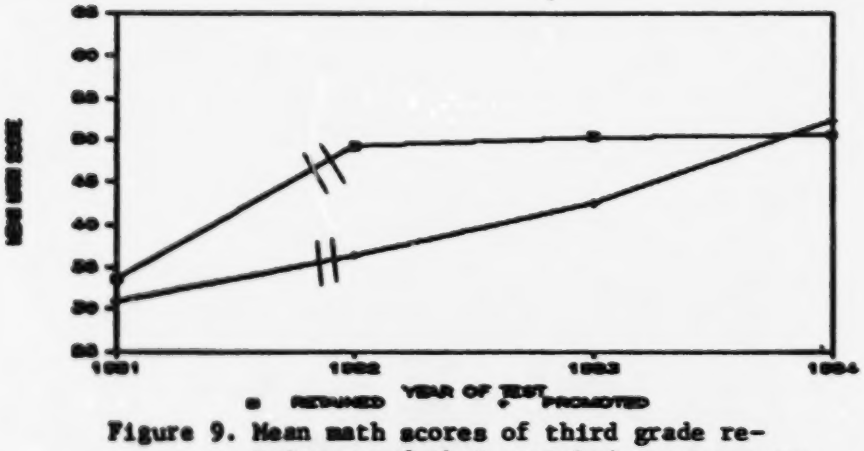

Figure 9. Mean math scores of third grade retainees and their matched counterparts on comparisons of relative class standing.

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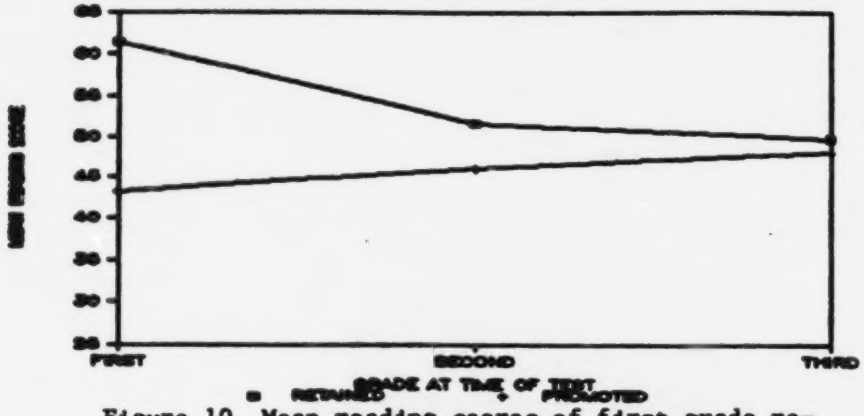

Figure 10. Mean reading scores of first grade retainees and their matched counterparts on comparisons of same-grade level test.

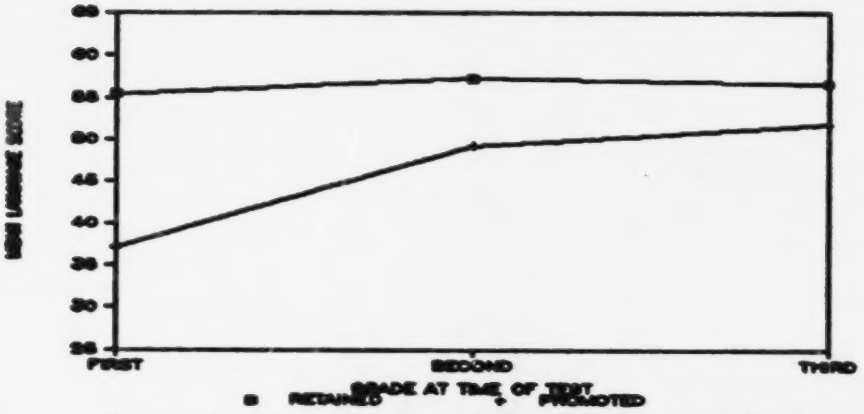

Figure 11. Mean language scores of first grade retainees and their matched counterparts on comparisons of same-grade level test.

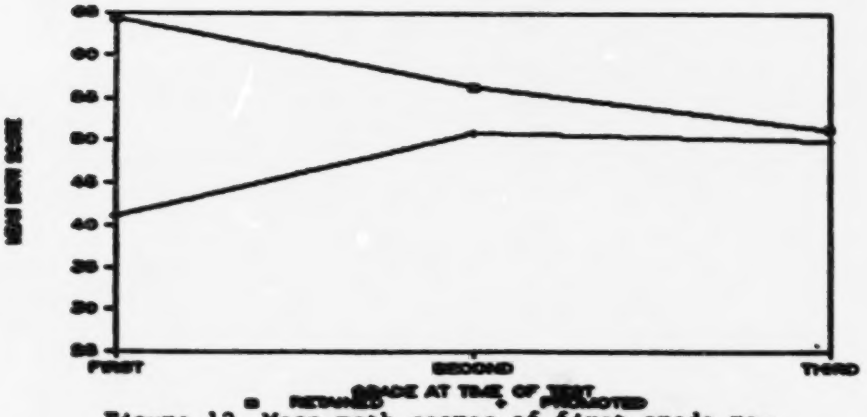

Figure 12. Mean math scores of first grade retainees and their matched counterparts on comparisons of same-grade level test.

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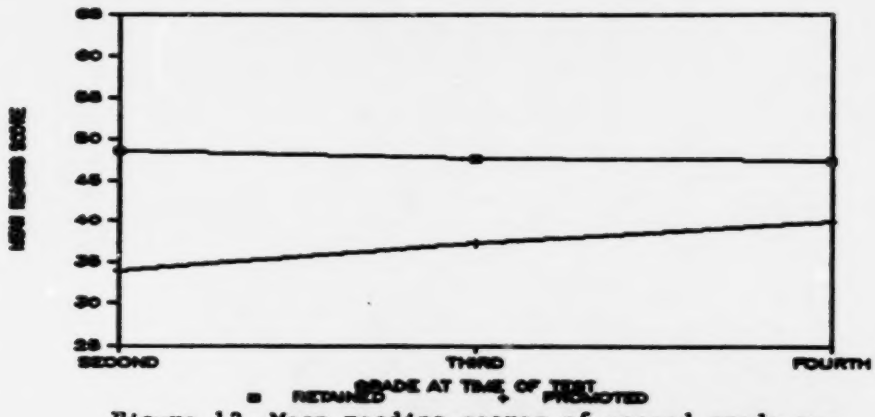

Figure 13. Mean reading scores of second grade retainees and their matched counterparts on comparisons of same-grade level test.

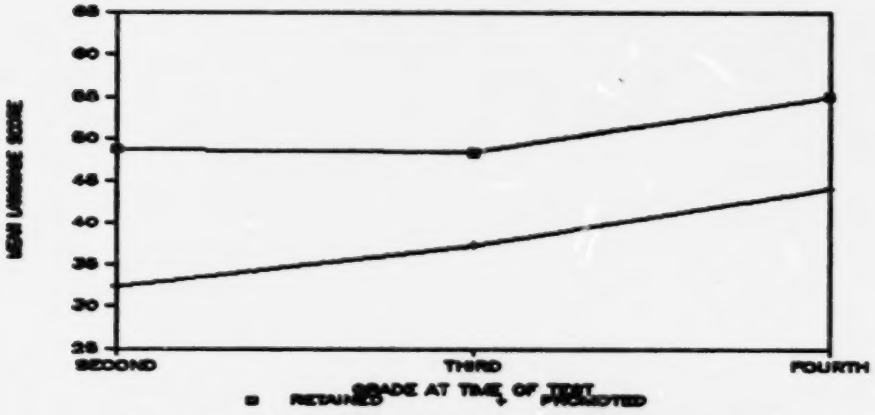

Figure 14. Mean language scores of second grade retainees and their matched counterparts on comparisons of same-grade level test.

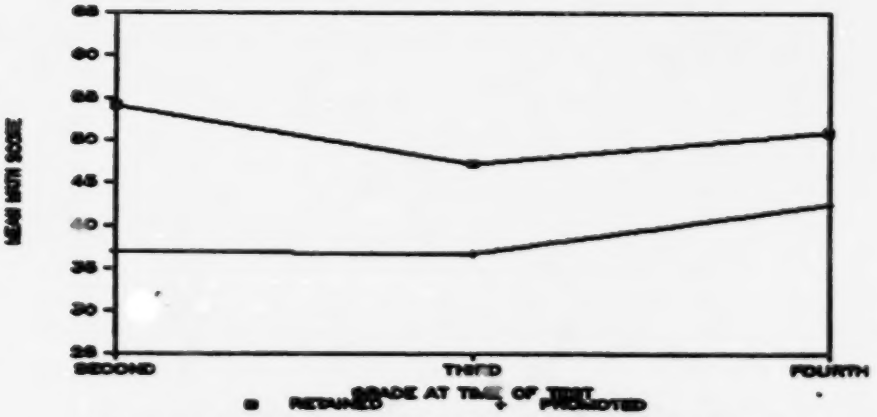

Figure 15. Mean math scores of second grade retainees and their matched counterparts on comparisons of same-grade level test.

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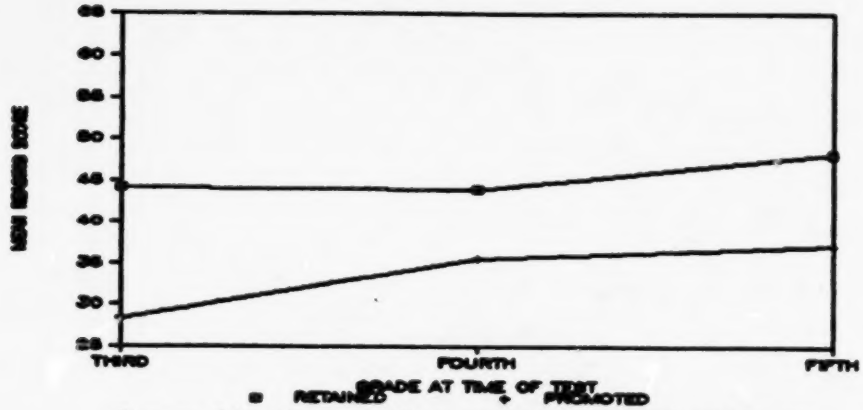

Figure 16. Mean reading scores of third grade retainees and their matched counterparts on comparisons of same-grade level test.

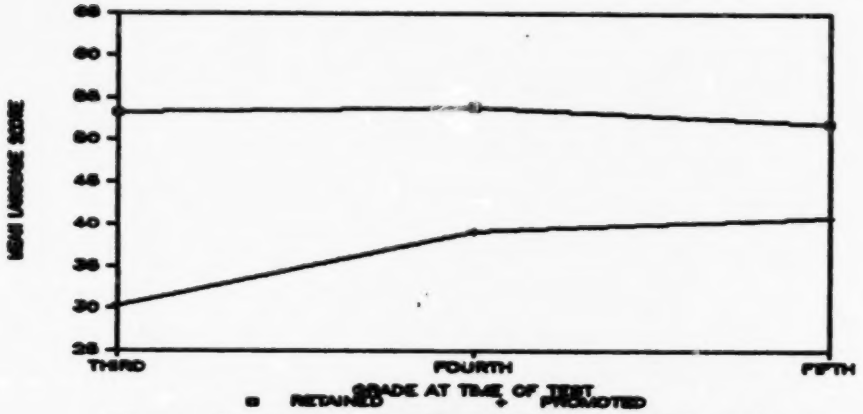

Figure 17. Mean language scores of third grade retainees and their matched counterparts on comparisons of same-grade level test.

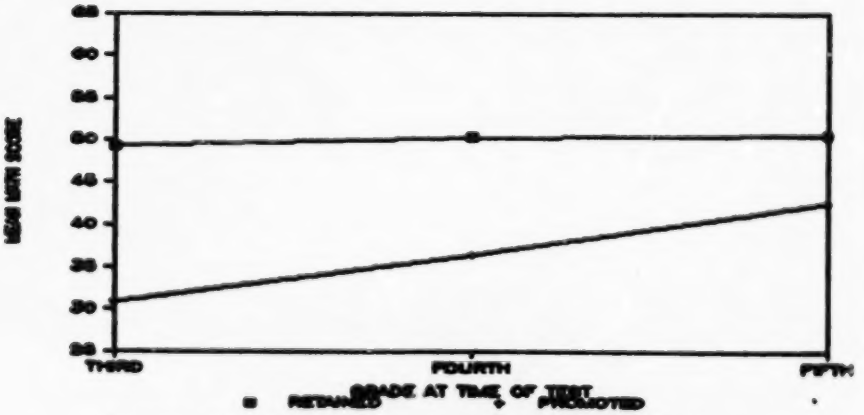

Figure 18. Mean math scores of third grade retainees and their matched counterparts on comparisons of same-grade level test.

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